

3/20

PTO/SB/21 (09-04)

Approved for use through 07/31/2006. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Project of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

TRANSMITTAL FORM

(to be used for all correspondence after initial filing)

Total Number of Pages in This Submission

192

Application Number

10/772,444

Filing Date

February 6, 2004

First Named Inventor

Gerald T. MEARINI

Art Unit

1722

Examiner Name

Felisa C. Hiteshew

Attorney Docket Number

GEN01 002

ENCLOSURES (Check all that apply)



Fee Transmittal Form



Fee Attached



Amendment/Reply



After Final



Affidavits/declaration(s)



Extension of Time Request



Express Abandonment Request



Information Disclosure Statement



Certified Copy of Priority Document(s)



Reply to Missing Parts/
Incomplete Application



Reply to Missing Parts
under 37 CFR 1.52 or 1.53



Drawing(s)



Licensing-related Papers



Petition



Petition to Convert to a
Provisional Application



Power of Attorney, Revocation



Change of Correspondence Address



Terminal Disclaimer



Request for Refund



CD, Number of CD(s) _____

☐ Landscape Table on CD



After Allowance Communication to TC



Appeal Communication to Board
of Appeals and Interferences



Appeal Communication to TC
(Appeal Notice, Brief, Reply Brief)



Proprietary Information



Status Letter



Other Enclosure(s) (please identify
below):

Publications for consideration with
Information Disclosure Statement

Remarks

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm Name

Duane Morris, LLP

Signature

Printed name

D. Joseph English

Date

8/16/2005

Reg. No.

42,514

CERTIFICATE OF TRANSMISSION/MAILING

I hereby certify that this correspondence is being facsimile transmitted to the USPTO or deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on the date shown below:

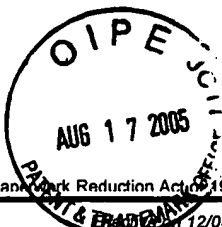
Signature

Typed or printed name

Date

This collection of information is required by 37 CFR 1.5. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.



PTO/SB/17 (12-04v2)

Approved for use through 07/31/2006. OMB 0651-0032

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Patent Work Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMR control number

Fees pursuant to the Consolidated Appropriations Act, 2005 (H.R. 4818).
12/08/2004.**FEE TRANSMITTAL**
For FY 2005☐ Applicant claims small entity status. See 37 CFR 1.27**TOTAL AMOUNT OF PAYMENT** (\$) 180.00**Complete if Known**

Application Number	10/772,444
Filing Date	February 6, 2004
First Named Inventor	Gerald T. MEARINI
Examiner Name	Felisa C. Hiteshew
Art Unit	1722
Attorney Docket No.	GEN01 002

METHOD OF PAYMENT (check all that apply)☒ Check ☐ Credit Card ☐ Money Order ☐ None ☐ Other (please identify): _____☐ Deposit Account Deposit Account Number: _____ Deposit Account Name: _____

For the above-identified deposit account, the Director is hereby authorized to: (check all that apply)

☐ Charge fee(s) indicated below ☐ Charge fee(s) indicated below, **except for the filing fee**☐ Charge any additional fee(s) or underpayments of fee(s) under 37 CFR 1.16 and 1.17 ☐ Credit any overpayments**WARNING:** Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.**FEE CALCULATION****1. BASIC FILING, SEARCH, AND EXAMINATION FEES**

Application Type	FILING FEES		SEARCH FEES		EXAMINATION FEES		Fees Paid (\$)
	Fee (\$)	<u>Small Entity</u> Fee (\$)	Fee (\$)	<u>Small Entity</u> Fee (\$)	Fee (\$)	<u>Small Entity</u> Fee (\$)	
Utility	300	150	500	250	200	100	_____
Design	200	100	100	50	130	65	_____
Plant	200	100	300	150	160	80	_____
Reissue	300	150	500	250	600	300	_____
Provisional	200	100	0	0	0	0	_____

2. EXCESS CLAIM FEES**Fee Description**

Each claim over 20 (including Reissues)

Fee (\$)	<u>Small Entity</u> Fee (\$)
50	25
200	100
360	180

Each independent claim over 3 (including Reissues)

Multiple dependent claims

Total Claims **Extra Claims** **Fee (\$)** **Fee Paid (\$)**

- 20 or HP = _____ x _____ = _____

HP = highest number of total claims paid for, if greater than 20.

Indep. Claims **Extra Claims** **Fee (\$)** **Fee Paid (\$)**

- 3 or HP = _____ x _____ = _____

HP = highest number of independent claims paid for, if greater than 3.

Multiple Dependent Claims**Fee (\$)** **Fee Paid (\$)****3. APPLICATION SIZE FEE**

If the specification and drawings exceed 100 sheets of paper (excluding electronically filed sequence or computer listings under 37 CFR 1.52(e)), the application size fee due is \$250 (\$125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).

Total Sheets **Extra Sheets** **Number of each additional 50 or fraction thereof** **Fee (\$)** **Fee Paid (\$)**

- 100 = _____ / 50 = _____ (round up to a whole number) x _____ = _____

4. OTHER FEE(S)

Non-English Specification, \$130 fee (no small entity discount)

Fees Paid (\$)

Other (e.g., late filing surcharge): Information Disclosure Statement Filing Fee

180.00

SUBMITTED BY

Signature		Registration No. (Attorney/Agent) 42,514	Telephone 202-776-7800
Name (Print/Type)	D. Joseph English		Date 8/16/2005

This collection of information is required by 37 CFR 1.136. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 30 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.



ATTORNEY DOCKET NO. GEN01 002

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of Gerald T. Mearini, James A. Dayton, Jr.

Serial No.: 10/772,444

Art Unit: 1722

Filed: February 6, 2004

Examiner: Felisa C. Hiteshew

Title: FREE-STANDING DIAMOND STRUCTURES AND METHODS

INFORMATION DISCLOSURE STATEMENT

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

This Information Disclosure Statement is submitted pursuant to 37 C.F.R.

19.7(c)(2). Accordingly, a check in the amount of \$180.00 is submitted herewith.

The documents below are listed for your consideration in the examination of the subject application.

US PATENTS AND PUBLISHED APPLICATIONS:

<u>Patent/Pub. No.</u>	<u>Patentee(s)</u>	<u>Issue/Pub. Date</u>	<u>Examiner Initials</u>
6,244,212	Mearini, et al.	June 12, 2001	
5,944,573	Mearini, et al.	August 31, 1999	
6,110,541	Lee, et al.	August 29, 2000	
6,042,900	Rakhimov, et al.	March 28, 2000	

6,656,444	Pinneo	December 2, 2003
6,001,432	Yamazaki, et al.	December 14, 1999
6,132,278	Kang, et al.	October 17, 2000
6,301,333	Mearini, et al.	October 9, 2001
6,475,355	Mearini, et al.	November 5, 2002
6,686,696	Mearini, et al.	February 3, 2004
6,521,149	Mearini, et al.	February 18, 2003
20020125827	Mearini, et al.	March 8, 2001
20020012746	Mearini, et al.	July 10, 2001

A copy of the below listed documents are enclosed for consideration in the examination of the subject application.

OTHER PUBLICATIONS

"An In-situ Heating Study of Hydrogen Containing Absorbates on Polycrystalline Diamond Surfaces Using Elastic Recoil Detection," C A. Zorman, G. T. Mearini and R. W. Hoffman, *Diam. And Rel. Mat.* 9, 1518-1523 (2000).

"Field Emission from Gated Diamond Arrays," W. Mueller, H. S. Dewan, H. Chen, G. T. Mearini and I. L. Krainsky, *Applied Surface Science*, Vol. 146, pp. 328-333, (1999).

"Auger Electron Spectroscopy of the Hydrogen Terminated Chemical Vapor Deposited Diamond Surface," I. L. Krainsky, G. T. Mearini and V. M. Asnin, *Appl. Phys. Lett.*, 68(14), 2017-2019, April (1996).

"Negative-Electron-Affinity Effect on the Surface of Chemical Vapor Deposited Diamond Polycrystalline Films," I. L. Krainsky, V. M. Asnin, G. T. Mearini, and J. A. Dayton, Jr, *Phys. Res. B* 53, Rapid Communications, R7650, March (1996).

"Electron Emission Observations From As-Grown and Vacuum-Coated Chemical Vapor Deposited Diamond," A. Lamouri, Y. Wang, G. T. Mearini, I. L. Krainsky, J. A. Dayton, Jr., and W. Mueller, *J. Vac. Sci. and Tech.*, B 14(3), 2046-2049, May/June (1996).

"Effects of Surface Treatment on Secondary Electron Emission from CVD Diamond Films," G. T. Mearini, I. L. Krainsky, J. A. Dayton, Jr., C. Zorman, Y. Wang, and A. Lamouri, *Diamond Films and Tech.*, 5(6), 339-351 (1995).

"High Emission CsI Coated Diamond Dynodes for an Electron Multiplier," G. T. Mearini, I. L. Krainsky, J. A. Dayton, Jr., *Proc. of Third Int. conf. on the Applications of Diamond Films and Rel. Materials*, Aug. 21-24, NIST Special Publication 885 (1995) 13.

"Electron Emission Observations From As-Grown and Vacuum-Coated Chemical Vapor Deposited Diamond," A. Lamouri, G. T. Mearini, Yaxin Wang, and R E. Kusner, *Proc. of the Third Int. Conf. on the Applications of Diamond Films and Rel. Materials*, Aug. 21-24, NIST Special Publication 885 (1995) 61.

"Investigation of Secondary Electron Emission from CVD Diamond Films for Crossed-Field Device Applications," G. T. Mearini, I. L. Krainsky, and J. A. Dayton, Jr., *Proc. of the First Workshop on Crossed-Field Devices*, University of Michigan, Ann Arbor, MI (1995) 115-124.

"Electron Emission Observations From As-Grown and Vacuum Coated CVD Diamond," A. Lamouri, Yaxin Wang, G. T. Mearini, I. L. Krainsky, and J. A. Dayton, Jr., *Proc. of*

the International Vacuum Microelectronics Conference, July 29-Aug. 4, Portland, OR (1995) 310-314.

"Stable Secondary Electron Emission from CVD Diamond Films Coated With Alkali-Halides," G.T. Mearini, I.L. Krainsky, J.A. Dayton, Jr., Yaxin Wang, Christian A. Zorman, John C. Angus, R.W. Hoffman, and D.F. Anderson, *Appl. Phys. Lett.*, 66(2), 242-244 (1995).

"Stable Secondary Electron Emission Observations from CVD Diamonds," G.T. Mearini, I.L. Krainsky, I.A. Dayton, Jr., Yaxin Wang, Christian A. Zorman, John C. Angus, and R.W. Hoffman, *Appl. Phys. Lett.*, 65(21), 2702-2704 (1994).

"Fabrication of an Electron Multiplier Utilizing Diamond Films," G. T. Mearini, I. L. Krainsky, J. A. Dayton, Jr., Y. X. Wang, R. Ramesham, and M. F. Rose, *Thin Solid Films*, 253(1), 151-156 (1994).

"Investigation of Diamond Films for Electronic Devices," G. T. Mearini, I. L. Krainsky, and J. A. Dayton, *Conference Record, The 1994 Tri-Service/NASA Cathode Workshop*, 135-138 (1994).

"Investigation of Diamond Films for Electronic Devices," G. T. Mearini, I. L. Krainsky, and J. A. Dayton, Jr., *Surf. and Int. Anal.*, 21(2), 138-143 (1994).

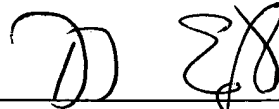
"Effect of Hydrogen on the Properties of Polycrystalline Diamond Thin Films," R. Ramesham, M. F. Rose, R. F. Askew, T. L. Bekker, J. A. Dayton, Jr., I. L. Krainsky, G. T. Mearini, D. File, A. S. Gilmour, Jr., and V. Ayers, *Surf. and Coatings Technol.*, 64, 81-86 (1994).

"Investigation of Applications of Diamond Films in Microwave Tubes," T. L. Bekker, A. S. Gilmour, Jr., V. M. Ayers, D. M. File, J. A. Dayton, Jr., I. L. Krainsky, G. T. Mearini, M. F. Rose and R. Ramesham, Report Naval Surface Warfare Center, Crane Division through Port Hueneme Division, Funded by MIPR to NASA Grant NAGW -1192-CCDS-AD, Auburn University.

"Observations of Secondary Electron Emission From Diamond Films," T. L. Bekker, J. A. Dayton, Jr., A. S. Gilmour, Jr., I. L. Krainsky, M. F. Rose, R. Ramesham, D. File, and G. T. Mearini, *IEDM IEEE Technical Digest*, 949-952 (1992).

"Three-Dimensional Finite Element Analysis of Thin-Film Stresses Using ALGOR Personal-Computer-Based Software," D. Krus, G. T. Mearini, K. Chaffee, and R. W. Hoffman, *J. Vac Sci. Technol A*9(4), 2488 Jul/Aug (1991).

Respectfully Submitted,



D. Joseph English	Reg. No. 42,514
Mark C. Comtois	Reg. No. 46,285
L. Lawton Rogers, III	Reg. No. 24,302
Patrick D. McPherson	Reg. No. 46,255

DUANE MORRIS LLP
1667 K Street, N.W., Suite 700
Washington, D.C. 20006
Telephone: (202) 776-7800
Telecopier: (202) 776-7801
Dated: August 16, 2005